

This listing of claims will replace all prior versions, and listings, of claims in the application:

- 1 Claim 1 (previously presented): A method for use in a system at a premises, the system having at least one terminal, a local area network including the at least one terminal, and coupled with units terminating at least two communications links from the premises to a communications provider facility, the method comprising:
 - 5 a) accepting data on the local area network;
 - 6 b) determining whether the data accepted concerns establishing a connection or is part of an established connection;
 - 7 c) if it is determined that the data accepted concerns establishing a connection, then
 - 10 i) selecting one of the at least two communications links based on a policy,
 - 11 ii) assigning the selected one of the at least two communications links to a session to be associated with the data accepted, and
 - 12 iii) forwarding the data accepted to the selected one of the at least two communications links; and
 - 13 d) if it is determined that the data accepted is part of an established connection, then forwarding the data accepted to the assigned communications link.
- 1 Claim 2 (original): The method of claim 1 wherein the data is a PPPoE frame.
- 1 Claim 3 (original): The method of claim 2 wherein the act of determining whether the data accepted concerns establishing a connection or is part of an established connection is based on an Ether-type field of the PPPoE frame.
- 1 Claim 4 (original): The method of claim 1 wherein if the data is a PPPoE Active Discovery Initiation packet, then determining that the data concerns establishing a connection.

- 1 Claim 5 (original): The method of claim 1 wherein if the data is a packet selected from a
 - 2 group of packets consisting of (a) a PADO packet, (b) a PADR packet, (c) a PADS
 - 3 packet, and (d) a session stage packet, then determining that the data is part of an
 - 4 established connection.
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- 1 Claim 6 (original): The method of claim 1 further comprising:
 - 2 c) if it is determined that the data accepted concerns establishing a connection,
3 then
 - 4 iv) storing the selected one of the at least two communications links and
5 an associated session ID.
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- 1 Claim 7 (original): The method of claim 6 further comprising:
 - 2 c) if it is determined that the data accepted concerns establishing a connection,
3 then storing a terminal ID.
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- 1 Claim 8 (original): The method of claim 1 wherein the policy upon which the one of the
2 at least two communications links is selected is a function selected from a group of
3 functions consisting of (a) traffic, (b) past selection states, (c) a terminal source of the
4 accepted data, (d) a user associated with the accepted data, (e) a time, (f) a present state
5 of the at least two communications links, and (g) a present state of established sessions.
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- 1 Claim 9 (original): The method of claim 1 further comprising:
 - 2 e) if it is determined that the data accepted is part of an established connection,
3 and that the data is a request to terminate the connection, then freeing the selected
4 one of the at least two communications links.
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- 1 Claim 10 (original): The method of claim 6 further comprising:
 - 2 e) if it is determined that the data accepted is part of an established connection,
3 and that the data is a request to terminate the connection, then
 - 4 i) freeing the selected one of the at least two communications links, and

5 ii) permitting the stored selected one of the at least two communications
6 links and the associated session ID to be overwritten.

1 Claim 11 (original): A method of claim 1 wherein the connection is a connection to a
2 PPPoE session server.

1 Claim 12 (previously presented): A method for use in a system at a premises, the system
2 having at least one terminal, a local area network including the at least one terminal, and
3 coupled with units terminating at least two communications links from the premises to a
4 communications provider facility, the method comprising:

- a) accepting data originating from the at least one terminal and from the at least two communications links; and
- b) forwarding data towards the at least one terminal and towards the at least two communications links,

wherein, upon receiving a session request from the at least one terminal,
9 i) assigning one of the at least two communications links based on a
10 policy, and
11 ii) forwarding the session request to the assigned one of the at least two
12 communications links.
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1 Claim 13 (original): The method of claim 12 wherein, upon receiving a session offer,
2 forwarding the session offer towards the terminal which requested the session.

1 Claim 14 (original): The method of claim 13 wherein, upon receiving a session
2 acceptance from the at least one terminal, forwarding the session acceptance to the
3 assigned one of the at least two communications links.

1 Claim 15 (original): The method of claim 14 wherein, upon receiving a session
2 confirmation, forwarding the session confirmation towards the terminal which sent the
3 session acceptance.

1 Claim 16 (original): The method of claim 12 wherein, upon receiving a data with an
2 associated session identification, forwarding the data to the one of the at least two
3 communications links associated with the session identification.

1 Claim 17 (original): The method of claim 12 wherein the act of assigning one of the at
2 least two communications links based on a policy, further includes,
3 A) storing the assigned communications link and an
4 identification of the terminal sending the session request.

1 Claim 18 (original): The method of claim 12 wherein the act of forwarding the session
2 request to the assigned one of the at least two communications links, further includes,
3 A) forwarding the session request and the assigned
4 communications link to a line forwarding process, and
5 B) forwarding the session request from the line forwarding
6 process to the assigned communications link.

1 Claim 19 (original): The method of claim 12 wherein the policy upon which the one of
2 the at least two communications links is selected is a function of factors selected from a
3 group of factors consisting of (a) traffic, (b) past selection states, (c) a terminal source of
4 the accepted data, (d) a user associated with the accepted data, (e) a time, (f) a present
5 state of the at least two communications links, and (g) a present state of established
6 sessions.

1 Claim 20 (previously presented): A link selection unit for use in a system at a premises,
2 the system (i) including a local area network including at least one terminal and (ii)
3 terminating at least two communications links from the premises to a communications
4 provider facility, the link selection unit comprising:
5 a) means for accepting data from the local area network;
6 b) means for determining a connection state based on the data accepted;
7 c) means for selecting one of the at least two

8 communications links when the means for determining a connection state
9 determines that a connection has not yet been established; and
10 d) means for forwarding data to a selected one of the
11 at least two communications links when the means for determining a connection
12 stated determines that a connection has already been established, and when the
13 means for selecting one of the at least two terminated communications links
14 selects one of the at least two communications links.

1 Claim 21 (original): The link selection unit of claim 20 further comprising:
2 e) link termination units, each of the link termination units terminating an
3 associated one of the at least two communications links.

1 Claim 22 (original): The link selection unit of claim 21 wherein each of the link
2 terminations units is an ADSL terminating unit-remote.

1 Claim 23 (original): The link selection unit of claim 20 further comprising:
2 e) a storage device for storing policies used by the means for selecting one of the
3 at least two communications links to determine which of the at least two
4 communications links to select.

1 Claim 24 (original): The link selection unit of claim 23 wherein the policies are a
2 function of factors selected from a group of factors consisting of (a) traffic, (b) past
3 selection states, (c) a terminal source of the accepted data, (d) a user associated with the
4 accepted data, (e) a time, (f) a present state of the at least two communications links, and
5 (g) a present state of established sessions.

1 Claim 25 (original): The link selection unit of claim 23 further comprising:
2 f) means for managing the policies stored in the storage device.

1 Claim 26 (previously presented): The method of claim 1 wherein data looping in the
2 system is prevented.

1 Claim 27 (previously presented): The method of claim 12 wherein data looping in the
2 system is prevented.

1 Claim 28 (previously presented): The link selection unit of claim 20 wherein data
2 looping in the system is prevented.

1 Claim 29 (previously presented): The link selection unit of claim 20 wherein each of the
2 at least two communications links are terminated by simple modems without learning
3 bridge logic.